

Inventorying Grazing Land Resources

Range and Pasture Jobsheet 24

This job sheet can be used to conduct resource inventories when planning prescribed grazing. The tables below should be used to document grazing land resources for planning purposes. **This job sheet, along with the Forage Suitability Group, Woodland Suitability Group, or other forage production information for the site should be used to fill out the Forage Budget Worksheet (Excel spreadsheet) to complete the forage inventory and assess the forage-animal balance.**

Considerations for planning

Soils. Protecting the soil from erosion is the first step towards a sustainable agricultural system. Soil removed by erosion typically contains 3 times more nutrients than the soil left behind and is 1.5 to 5 times richer in organic matter. Erosion not only reduces future productivity but also creates water quality concerns. Adequate amounts of vegetation should be maintained to prevent accelerated soil erosion and to maintain animal health and productivity. Soil characteristics to be aware of include evidence of erosion, frequency and duration of ponding/flooding, soil compaction, pH, and nutrient status. Current soil test information is critical when determining what management inputs are necessary to reach forage production goals.

Livestock. The Livestock Inventory Table on the following page will help document the number of animals present on the farm, along with their weight. This information is required to determine how much forage they will consume. It is also important to determine *when* they will consume it. The season of the year and the stage of the reproductive cycle affect how much they eat and should be known to balance that need with forage production. Additionally, retaining weaned calves or buying additional animals will affect this balance. This information is needed to complete the Forage Budget Worksheet.

Water resources. When considering animal demands include livestock accessibility to water. Does the present water supply provide sufficient amounts and quality of water? Will the present supply still be adequate if additional animals or pastures are added in the future? Mature beef cattle generally consume around 12 gallons of water/day. Dairy cows consume around 25 gallons/day. Space around the water tank should also be considered. Plan to water 1 out of 20 animals in a herd at one time and allow 20 to 30 inches of tank perimeter per head being watered. The watering facility should be able to water all the animals in a herd in 2-3 hours.

Watering facilities should be located to minimize manure distribution in or near water sources, water conveyances, or areas with a high potential for erosion, while maximizing access to the pasture. Water location affects grazing distribution. Livestock grazing distribution across a pasture will be best when cattle do not have to travel more than ¼ mile



to water. Utilization of forages decreases when distance to water exceeds ¼ mile.

Fences. Ensure perimeter fences are well constructed. When possible, locate fences on boundaries between ecological sites or forage suitability groups that define similar soils or topography. On steeper slopes, fences should be constructed across the slope, when possible.

Forages. For each pasture, the number of acres and the management species need to be determined. The dominant soils in the pasture also need to be determined so that a Forage Suitability Group can be assigned for the pasture. In a woodland grazing situation, production can be estimated from the Woodland Suitability Groups. On Rangeland, production information will need to be derived from clipping plots or existing production estimates within the area of interest. This production information is needed to complete the Forage Budget Worksheet.

Assess the severity and uniformity of grazing in each pasture. Pastures should also be assessed for weed problems. Forages should be grazed in accordance with the production limitations of the forage species present and their sensitivity to grazing. Grazing frequency and grazing season should be based on the rate of regrowth and the physiological condition of the forage. Duration and intensity of grazing should be planned based on the expected productivity of the key forage species and adjusted as needed to maintain plant health.

For pastureland and cropland, minimum residual stubble heights should be measured periodically to determine when grazing should stop to ensure the pasture is not over-utilized. This will allow sufficient re-growth to maintain plant health and vigor. Range and Pasture Job Sheet 23 shall be used to document proper grazing use. For rangeland, grazed forestland, and native pasture, proper grazing use will be documented using Range and Pasture Jobsheet 25.

For cropland, grazing must be managed so that a 30% cover of plant material is left on the ground surface to prevent erosion.

Resource Inventory Form

Participant name: _____ Farm number: _____ Date: _____

Planner's name: _____ Field Office: _____

Livestock Resource

Animal class	Animal number	Average weight (lbs)	Months grazed	Animal class	Animal number	Average weight (lbs)	Months grazed
Dry/Pregnant beef cows				Repl. heifers			
Lactating beef cows				Stockers			
Dry/Pregnant dairy cows				Horses			
Lactating dairy cows				Sheep or goats			
Bulls				Other, specify			

Forage Resource¹

Field #					
Considerations					
Acres					
Type of grazing land					
Suitability group					
Management species					
Desirable plant cover					
Grazing use					
Toxic/pest spp & Possible control					

Soils/Nutrient Resources¹

Field #						
Considerations						
Erosion concerns						
Livestock water						
Livestock concentration areas						
Fence construction						
Ponding/ flooding						
Most recent soil test						
Fertilizer application information	Form					
	Rate					
	Timing					

¹The "Guide to Pasture Condition Scoring" and the "Pasture Condition Score Sheet" are useful tools when determining the condition of a pasture and what potential resource concerns are present. These documents can be found in the electronic Field Office Technical Guide. Chapter 4 of the National Range and Pasture Handbook describes the accepted methods to determine rangeland similarity index, trend, and health on existing ecological sites when working with rangeland. These methods can be used to provide an evaluation of the soil/site stability, hydrologic function, and integrity of the biotic community. It also provides information on potential problems and identifies areas that may be at risk of degradation.

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Considerations for filling out the Livestock Resource table	
Animal class	Determine what type of livestock the producer has. General categories have been input for your convenience; however, if you desire you can change these categories.
Animal number	Determine the number of animals within each class of livestock.
Animal weight	Determine the average weight of each category of livestock. Generally a cow will weigh from 1000 to 1500 pounds depending on the frame size and breed. Depending on their age, replacement heifers and stockers will weigh from 400 to 750 pounds. Bulls will weigh from 1800 to 2300 lbs or possibly more. Dairy cows will most likely weigh around 1200 to 1400 pounds.
Months grazed	Put in the month range that each class of livestock will be present on the farm. For example, in a spring calving situation, the cows will be lactating from Mar -Sep and dry from Oct-Feb. This information will be needed when the Forage Budget Worksheet is filled out.
Considerations for filling out the Forage Resource table	
Field # & Acres	Enter the assigned field number for each management unit along with the acreage.
Grazing land type	Define type of grazing land. Refer to the Prescribed Grazing Practice Specifications or the National Range and Pasture Handbook for grazing land definitions. In Louisiana there are 5 types of grazing land: rangeland, grazed forest, native pasture, pasture, and cropland
Forage Suit. Group	Based on the dominant soil(s) in the management unit list the Forage Suitability Group or Woodland Suitability Group to be used for estimating forage production. This is not used for rangeland.
Management species	Identify the forage species for which the pasture is being managed. This will be the species (usually one, but up to three) used to evaluate proper grazing use via stubble heights or degree of use.
Desirable plant cover	Identify the proportion of pasture that is comprised of plants that will be readily grazed by the existing livestock. This will include the management species, but may include other desirable forages as well. Low values here (<60%) may indicate that the management unit is in poor condition.
Grazing use	Grazing management is critical in maintaining productive pastures. Check for close frequent grazing which often causes loss of plant vigor, reducing yields and ground cover. Check for underutilization of the pasture indicated by selective (spot) grazing and buildup of mature forages and residue. Observe grazing patterns. Uniform use results in key species being grazed to a similar height across the entire pasture. Zone grazing occurs when one end of the pasture is heavily grazed and the other end is lightly grazed. This occurs on long narrow or irregularly shaped pastures.
Undesirable species/ Control methods	Document whether there is pest species affecting the productivity of the pasture. Potentially toxic species may also be present that warrant concern. Along with this document potential methods that could be used to control these species (ex. mowing, herbicide, etc.)
Considerations for filling out the Soil/Nutrient Resource table	
Evidence of erosion	Note any erosion problems. Sheet and rill erosion increase as vegetative and litter cover decrease. Evidence of sheet erosion in pastures appears as small debris dams of plant residue that build up at or around obstructions to water flow. Muddy water coming off a pasture is also an indicator of soil erosion.
Livestock water	Document if the present water supply is capable of supplying water for the existing number of animals on the farm. Consider whether it will be sufficient if animal numbers or number of pastures is increased. Note if distance to water is creating grazing use problems.
Compaction or concentration areas	Note problems associated with compaction or livestock concentration. Wet soils are more easily compacted by livestock use. Compaction decreases water infiltration and increases erosion and movement of nutrients off-site. Livestock concentration areas are more prone to erosion. They also receive more nutrients through manure deposition, increasing the potential for nutrient movement off-site. Also note if concentration areas are near drainages.
Fence construction	The fence needs to be able to control the grazing animals being managed. Look for weaknesses in the fence, especially around the perimeter.
Ponding or flooding	Flooding or ponding influences the species that can be grown on a site and when a site can be grazed. Grazing these area when they are wet will increase compaction and may damage the forage species. It may be possible to fence these areas off and graze them when they are dry.
Most recent soil test	Soil test information is important when matching lime and fertilizer needs with producer objectives. If soils have not been tested within the last 3 years another test may be required.
Fertilizer application info	Form: Document type of fertilizer and nutrient analysis Rate: Document how much is put out Timing: Document when the fertilizer is typically applied